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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,618	01/27/2004	Thomas L. Toth	GEMS8081.198	1362

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EXAMINER	
SONG, HOON K	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/765,618	TOTH ET AL.	
	Examiner	Art Unit	
	Hoon Song	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,8-11,14-30 and 32* is/are rejected.

7)☒ Claim(s) *3-7,12,13 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/29/06, 1/17/05.* 1/17/04 2/16/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *2/17/04, 2/16/04*.

DETAILED ACTION

The petition under 37 CFR 1.144 filed 11/29/2005 has been treated as a request for reconsideration of the restriction requirement. The request is approved. A new office action follows.

Claim Objections

Claim 13 is objected to because of the following informalities:

In claim 13 at line 3, "the subject-contour feedback" and "the scout scan" lack proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 8-11, 14, 18-23, 25-27 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Katsumata et al. (US 4558458).

Regarding claim 1, Katsumata teaches a tomographic system comprising:

a rotatable gantry having a bore centrally disposed therein (column 2 line 63);

a table (36) movable within the bore and configured to position a subject (P) for tomographic data acquisition within the bore;

a high frequency electromagnetic energy projection source (12) positioned within the rotatable gantry and configured to project high frequency electromagnetic energy toward the subject (figure 1);

a detector array (16) disposed within the rotatable gantry and configured to detect high frequency electromagnetic energy projected by the projection source and impinged by the subject; and

at least one sensor (34) to provide subject position feedback (figure 2, column 4 line 40-47).

Regarding claim 2, Katsumata teaches a laser sensor (34).

Regarding claim 8, Katsumata teaches the position feedback includes subject-contour feedback (H(L), figure 2, column 3 line 28-33).

Regarding claim 9, Katsumata teaches a computer readable storage medium having stored thereon a computer program representing a set of instructions which, when executed by at least one processor, cause the at least one processor to:

receive feedback regarding a subject position from at least one sensor (34) of an imaging device (column 4 line 42); and

determine a centering error from the feedback (column 4 line 40-47).

Regarding claim 10, Katsumata teaches the imaging device includes a medical imaging device (figure 1).

Regarding claim 11, Katsumata teaches the at least one processor is further caused to determine an adjustment in a table elevation relative to isocenter to reduce the centering error (column 3 line 64 and column 4 line 40).

Regarding claim 14, Katsumata teaches the sensors include a laser sensor (34).

Regarding claim 18, Katsumata teaches the at least on processor is further caused to determine a projection error ratio from the positioning information (column 4 line 24-40).

Regarding claim 19, Katsumata teaches a method of imaging comprising the steps of:

positioning a subject (P) in an imaging device (figure 1);

collecting positioning information of the subject from at least one sensor (34) disposed in proximity to the imaging device (column 2 line 57-67); and

determining a relative position of the subject within the imaging device from at least the position information (column 3 line 62 and column 4 line 40-52).

Regarding claim 20, Katsumata teaches the step of determining a table elevation relative to isocenter (column 3 line 62 and column 4 line 40-52).

Regarding claim 21, Katsumata teaches the step of determining a centering error of the subject in at least one direction (column 4 line 40).

Regarding claim 22, Katsumata teaches the step of repositioning the subject to reduce the centering error (column 4 line 43).

Regarding claim 23, Katsumata teaches the step of adjusting table elevation to reduce the centering error (column 4 line 43).

Regarding claim 25, Katsumata teaches the step of acquiring medical diagnostic data of the subject (CT system).

Regarding claim 26, Katsumata teaches the step of detecting a top surface position of the subject from the positioning information (figure 2, H(L) position).

Regarding claim 27, Katsumata teaches the step of determining from the top surface position an elevational offset of the subject (figure 2)

Regarding claim 30, Katsumata teaches the positioning information includes vector position information (figure 2).

Claims 9 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerig et al. (US 5446548).

Regarding claim 9, Gerig teaches a computer (200) readable storage medium having stored thereon a computer program representing a set of instructions which, when executed by at least one processor, cause the at least one processor to:

receive feedback (column 8 line 26-40) regarding a subject position from at least one sensor (150, 160) of an imaging device (150, 160); and

determine a centering error from the feedback (column 6 line 63, column 8 line 63).

Regarding claim 15, Gerig teaches the at least on processor is further caused to determine a lateral (X axis) repositioning value for subject re-centering from the feedback (column 9 line 53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsumata in view of Popescu (US 6501828B1).

Regarding claim 16, Katsumata fails to teach a filter nor at least on processor is further caused to determine an attenuation profile of the attenuation filter.

Popescu teaches a CT system having a filter and at least on processor is to determine an attenuation profile of the attenuation filter (wedge filter and controller 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the CT system of Katsumata with the attenuation filter system as taught by Popescu, since the filter system would reduce overall patient dose.

Regarding claim 17, Katsumata teaches the at least on processor is further caused to determine an attenuation pattern over a scan duration (detected CT data).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsumata in view of Scheibengraber (US 4538289).

Regarding claim 24, Katsumata fails to teach the at least one sensor is disposed in a bore of the imaging device.

Scheibengraber teaches a CT system having an alignment device that disposed in a bore (figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to locate the feedback sensor of Katsumata at the bore of the CT system as

taught by Scheibengraber, since the location of the sensor would provide an integrated system that would reduce the overall size of the CT system.

Claims 28-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsumata in view of Li et al. (US 6269501B1).

Regarding claim 28, Katsumata fails to teach the step of performing a scout scan.

Li teaches a CT method having a step of performing a scout scan (column 2 line 57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the CT of Katsumata with the scout scan as taught by Li, since the scout scan would reduce overall patient dose (column 2 line 36).

Regarding claims 29 and 32, Li teaches the step of determining the relative position from data acquired during the scout scan (column 2 line 59).

Allowable Subject Matter

Claims 3-7, 12-13 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3-7, the prior art fails to teach a computer programmed to: perform at least one scout scan; and associate the subject-position feedback with data derived from the scout scan as claimed in dependent claim 3.

Regarding claim 12, the prior art fails to teach the at least one processor is further caused to associate the feedback with data received from a scout scan as claimed in dependent claim 12.

Regarding claim 13, the prior art fails to teach the at least one processor is further caused to determine at least one of a PA, a PM, and an OR from the subject-contour feedback and the data derived from the scout scan as claimed in dependent claim 13.

Regarding claim 31, the prior art teaches the step of adjusting an attenuation characteristic of an attenuation filter according to the determined position of the subject as claimed in dependent claim 31.

Response to Arguments

Applicant's arguments with respect to claims 1-2, 8-11, 14-30 and 32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 9:30 AM - 7 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS